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THE BRICKBVILDER

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THE BRICKBUILDER.

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ADVERTISING.

Advertisers are classified and arranged in the following order:—

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Advertisements will be printed on cover pages only.

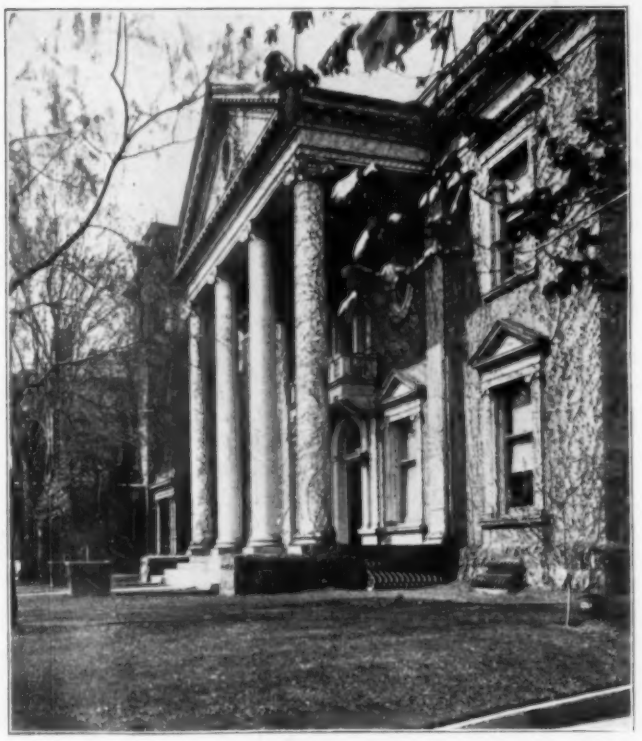
A CONTEMPORARY recently published a very doleful article by Mr. F. W. Fitzpatrick in which he painted a most alarming picture of the future of the architectural profession, which to him is rapidly degenerating into a condition where business hustle counts for everything, and art for art's sake commands nothing more than a feeble weekly stipend in a subordinate position, while the future seems to point to a time when there will be no architects, but the great building corporations which it is assumed will then exist, will buy up art by the year and turn it out by the bushel, at command, the individual artist being allowed full sway only on paper and even then being limited by the most severe practical considerations. We cannot help a sort of feeling that Mr. Fitzpatrick's acquaintance among the architects has been somewhat limited and that his dark forebodings are reflections of observations upon a really extremely limited class of practitioners. There certainly was never before a time in the history of the world when the pecuniary rewards of those of our architects who have the largest practice were as great and as sure as they are at present. Furthermore, there has never been a time when there were so many architects who were able for one reason or another to earn a handsome living, and one has but to mention names like Peabody & Stearns, McKim, Mead & White, Bruce Price, Carrère & Hastings, Cope & Stewardson, Frank Miles Day, Shepley Rutan & Coolidge, Ernest Flagg, Babb, Cook & Willard, Clinton & Russell, Holabird & Roche, D. H. Burnham, and perhaps altogether a score of others, to appreciate that though these twenty or thirty names are but a fraction of the total number of architects they certainly serve to show what architecture as an art and profession may be, both pecuniarily and artistically. And it would be unfair to deny to any one of these firms the quality to being primarily artistic in their intents and their aims. It would not be possible to select a dozen names in any other country in the world to-day which would include so much real talent and financial success; and yet certainly a generation ago there was hardly an architect either at home or abroad who could begin to show the work in either quality or quantity which is yearly turned out by most of these firms. It is a very common mistake for a draughtsman to think that because his employer does not spend eight or ten hours over his drawing-board every day, or because he allows the draughtsman to exercise a very considerable degree of artistic latitude, therefore the architect in question is not the real artist but only the chief manager, and that the real art comes from the underling. But somehow we notice that when these same underlings leave their nests and strike out for themselves, their work, while often better than the earlier work of their former employer, is very apt to be far behind the kind of work these same draughtsmen themselves turned out while in a subordinate position. The difference between a good design and a poor design is often very slight, so slight that a beginner fails to appreciate it, and when suggestions come to him from his employer he does not realize their full import.

We claim distinctly that the profession of architecture never was in as healthy and promising a condition as at present; that so far from there being any observed tendency towards the builders absorbing the architects, we believe it is far more likely to be the other way; and that the educated architect, the thoroughly posted man who knows what he wants and how to get it, will stand far more chance in the keen competition for business when he is equipped as an architect than when he is at the head of a large building company. These building companies have been a great help in the development of our country and they will continue to be. There never has been a time when there were not plenty of so-called architects-and-builders, and if the modern instances of this kind are far more efficient, better equipped and better organized than their predecessors, the same can surely be said of the modern architect to even a greater degree. So while we regret Mr. Fitzpatrick's pessimistic forecast, we cannot take it very seriously, for the facts are dead against it.

Recent Interesting Brickwork in Buffalo.

RESIDENCES.

BUFFALO, the city of frame houses, is awakening to the possibilities of brickwork. True, we have had brick buildings in Buffalo always, and some good ones, but, as the exception proves the rule, they are the proof. For example, one of our oldest buildings, and one architecturally good, is the historic Wilcox house, to which, it will be remembered, several pages of history were added last year when President Roosevelt took the oath of office. But strip it of its woodwork and what have we? Blank, characterless brick walls, and painted at that. So it is with many of our new buildings; but, as already stated, Buffalo is awakening, and now we have brick buildings possessing character in the brickwork; the woodwork, in fact, may be entirely removed, still the walls will be interesting. And now that Buffalo has started in the right direction, she is to be congratulated, for truly there is no building material wherein lie such possibilities as are to be found in brick.



PORCH, FORMAN HOUSE.
Green & Wicks, Architects.

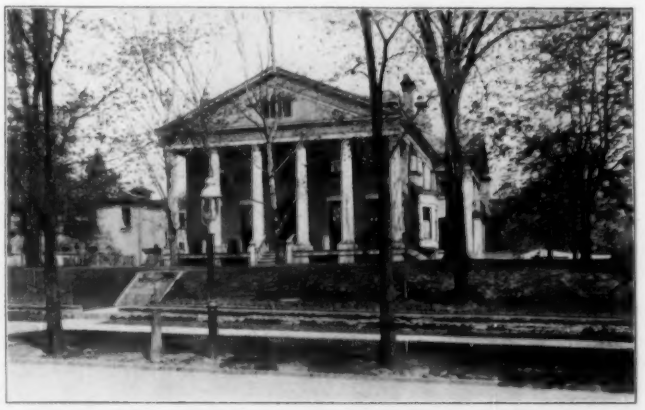
It might be said that some one is to blame for the poverty of our earlier brickwork. Who is it? Is it the public? Goodness knows, the public is blamed for a great deal that is bad in architecture, and perhaps justly so in many cases; but our public is young in this country, and with decided notions, be they good or bad. But we cannot lay the blame there; we can but deplore the fact that it takes so long to bring the public to a proper appreciation of the good and bad in architecture. And that there is improvement is a matter for congratulation. Can we blame the bricklayers? Yes and no. With few exceptions they do not know how to lay brick, but it is not their fault. They never have been taught, and it takes time to get them out of old ruts. Then whom can we blame, the architects? Perhaps with some justice we can, and still how can they be expected to get artistic work from inartistic bricklayers? Just as they are doing now. It is a long and discouraging task, but time and patience, with intelligent direction, will work wonders. By spending an hour or two with the men when they begin a piece of brickwork, and directing every moment, explaining why a certain brick or joint is best in a certain place, then by avoiding absolute uniformity of shade in the bricks, microscopic joints, the false, so-called American bond, etc., until eventually the bricklayers will understand what is required of them, the public will know good from indifferent, and the architect will be rewarded for his pains. The transition is coming, slowly but surely.

A charming example of brickwork, well laid, is the residence of Mr. Carlton Sprague, from plans of Babb, Cook and Willard. Here we have a pleasing variety in the brick, the color values are good and the texture satisfactory.

In contrast to the variety of tone is the residence of Mr. C. H. Williams, designed by McKim, Mead & White. In this building a uniform red brick was used, relying upon the white stone trimmings and white mortar joints for the pleasing color effect obtained.

The residence and stable of Mr. William Hamlin, from designs by the late Marling & Burdett, demonstrate the pleasing effect in detail obtainable with brick. The photograph of the front porch shows this clearly, the ornament being entirely of brick.

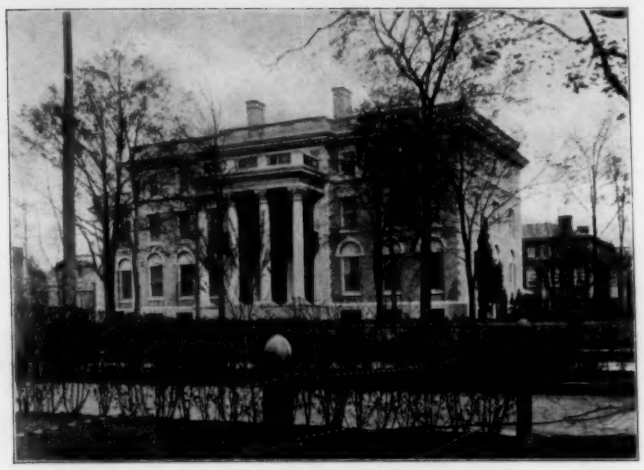
A very interesting example of brick used in a somewhat unusual way is the picturesque colonial porch to Mr. George V. Forman's residence, planned by Green & Wicks.



WILCOX HOUSE.

The little Elizabethan cottage designed by Lansing & Beierl for Mr. John A. Mann is an example of effective brickwork obtained by a judicious use of common brick.

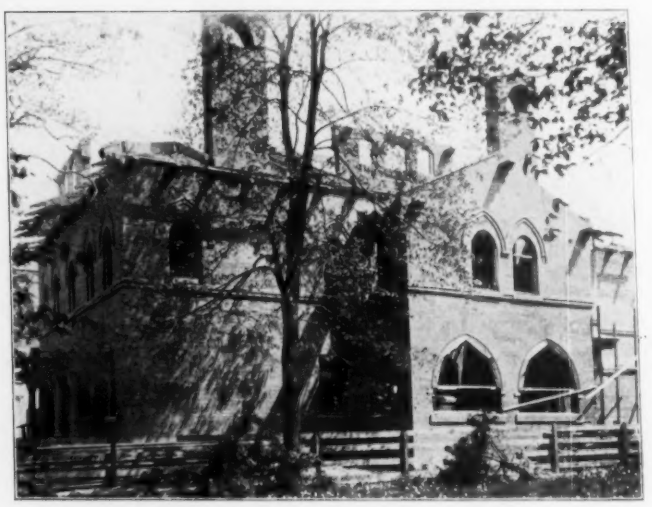
Another example of brick used to good advantage is the residence of Mr. Harlow C. Curtiss, from designs of Boughton & Johnson. This charming colonial residence



GEORGE L. WILLIAMS HOUSE.
McKim, Mead & White, Architects.

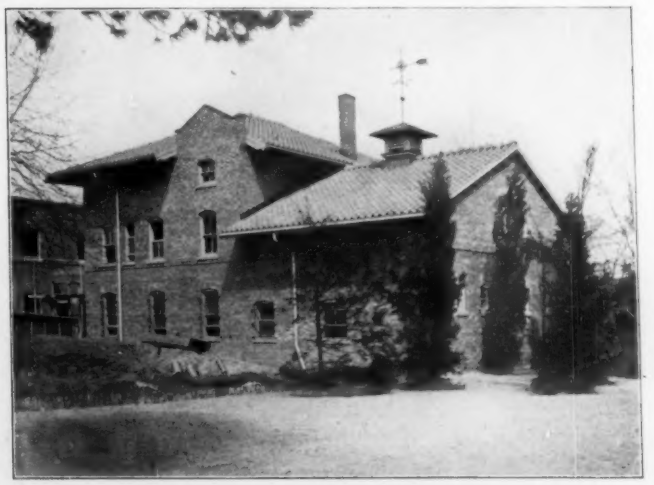
SMITH HOUSE.
Swan & Falkner, Architects.

GATES, GEORGE L. WILLIAMS HOUSE.
McKim, Mead & White, Architects.



WILSON HOUSE.
Esenwein & Johnson, Architects.

GOODYEAR HOUSE.
Green & Wicks, Architects.



WILSON STABLE.
Esenwein & Johnson, Architects.

BRICKWORK IN BUFFALO, N. Y.

emphasizes the fact that it is not so much the quality of the bricks used, especially from the manufacturers' viewpoint, as the manner in which they are used.

The stately mansion of Mr. George L. Williams, from plans of McKim, Mead & White, demonstrates that no work is too good or too imposing to be executed in brick. The Roman brick of a warm cream tone, with variation enough to avoid monotony, a white mortar joint and white marble trim, make a dignified, imposing and harmonious structure.

An effective example of wide mortar joint is shown in the unfinished residence of Mrs. Robert P. Wilson, from plans of Esenwein & Johnson. A warm brown to yellow-

SPRAGUE HOUSE.
Babb, Cook & Willard, Architects

brown, iron-spotted Roman brick, with plenty of variation, and 5/8-inch to 3/4-inch black mortar joint, are used in this building with excellent effect. The same brick in standard shape and a somewhat narrower black joint were used in the stable, where the effect of the widely overhanging cornice is shown by the heavy shadows, catching the Italian spirit nicely.

A dignified building in the Italian Renaissance, built of a very light cream, almost white, brick, is the residence of Mr. William C. Warren, designed by George Cary.

Another example of a light cream brick is the colonial residence of Mr. Robert K. Root, from the plans of McKim, Mead & White. The garden front is shown, and with the cream and white in combination with the dark green tile roof a most pleasing color effect is obtained.

The other extreme, a black brick or nearly so, is the Renaissance stable designed by George Cary for Dr. Charles Cary, — a very satisfactory piece of brickwork.

Some very interesting English pattern brickwork is shown in the new residence for Mr. George B. Mathews planned by Green & Wicks. Unfortunately this building is not far enough along to photograph, but a pencil sketch, kindly furnished by the architects, shows it very clearly. A promising bit of detail from this building is shown and will bear examination, the brickwork being unusually well laid, the texture good and the color values excellent.

Another example of pattern brickwork, planned by the same architects, is the residence of Mr. Charles W. Goodyear, unfinished, but far enough along to get a fairly good idea of the excellent effect obtainable by a judicious use of brick and mortar. It will be noticed that the walls of many of these buildings would still be interesting if every vestige of trimming were removed.

A simple but pleasing colonial residence by Esenwein & Johnson is that of Mr. Clarence L. Bryant. This building, like the last two, is built of paving brick, which seem to be more satisfactory in the walls of a building than for the purpose for which they were originally intended.

A charmingly located colonial cottage, snugly placed in a grove of trees, is the residence of Dr. A. M. Curtiss, planned by J. A. Johnson. No small amount of credit is due the fence in front of this building for its share in the general effect.

The value of some architectural line surrounding their grounds was recognized by Messrs. G. L. and C. H. Williams, who permitted their architects, McKim, Mead & White, to provide for this effect, which they did very cleverly, assigning brick to the principal rôle, as is shown by the entrance gates.

Examples of simple brickwork dependent largely upon the wood trimmings for effect are the French Renaissance residence of Mr. George W. Derrick, designed by Lansing & Beierl; the colonial residence of Mr. R. W. Pomeroy, from plans by Boughton & Johnson; and the colonial residence designed by Swan & Falkner for Mr. John H. Smith, this last building being an example of veneered work.

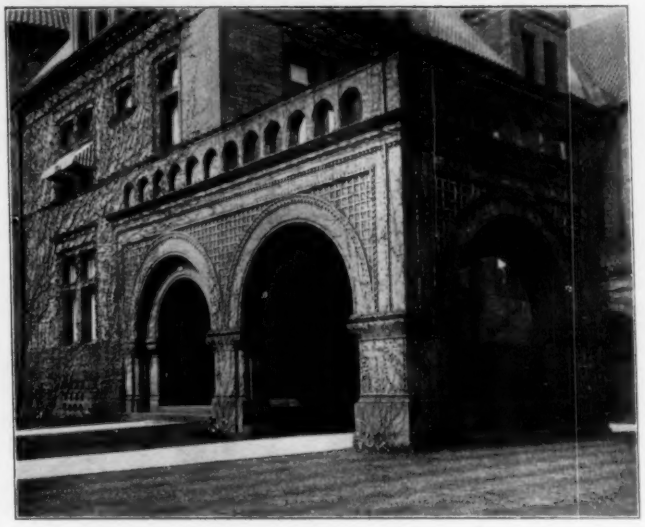
An excellent example of English half-timbered work is the stable designed by Green & Wicks for Mr. J. J. Albright.

DR. CARY'S STABLE.
George Cary, Architect.

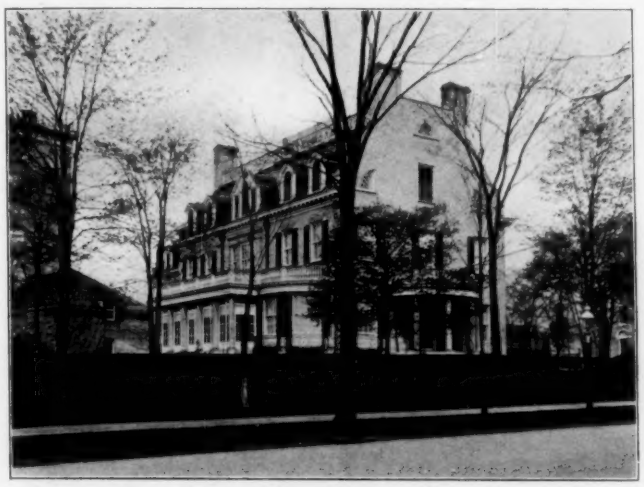
The vine-covered cottage with the many peaks and roofs is an excellent example of brickwork, designed by J. L. Silsbee for Mr. C. D. Arnold.

The residence of Mr. C. E. Walbridge, from plans by M. C. Miller, was unfortunately wedged in between its neighbors so closely that it does not do its author justice.

MANN HOUSE.
Lansing & Beierl, Architects.



PORCH, HAMLIN HOUSE.
Marling & Burdett, Architects.



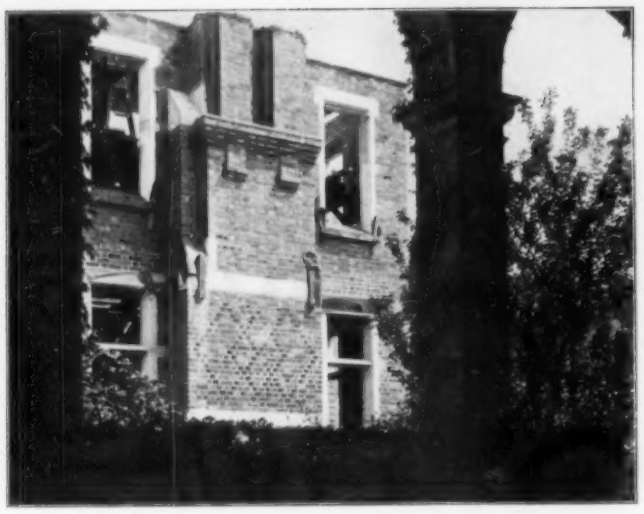
ROOT HOUSE.
McKim, Mead & White, Architects.

HAMLIN STABLE.
Marling & Burdett, Architects.

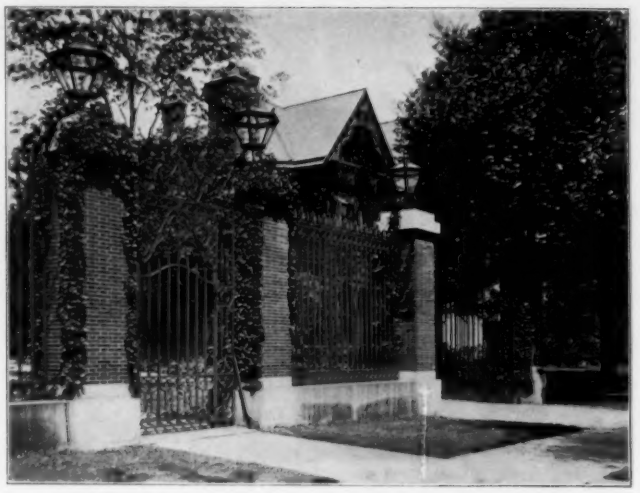
HAMLIN HOUSE.
Marling & Burdett, Architects.

WARREN HOUSE.
George Cary, Architect.

BRICKWORK IN BUFFALO, N. Y.



DETAIL, MATHEWS HOUSE.
Green & Wicks, Architects.



GATES, C. H. WILLIAMS HOUSE.
McKim, Mead & White, Architects.

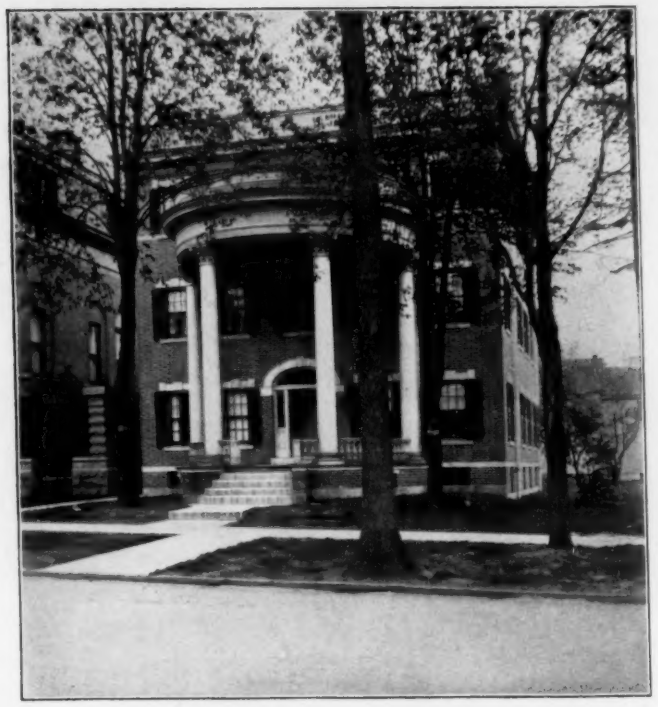
CURTISS HOUSE.
Boughton & Johnson, Architects.

ALBRIGHT STABLE.
Green & Wicks, Architects.

DR. CURTISS HOUSE.
James A. Johnson, Architect

ARNOLD HOUSE.
J. L. Silsbee, Architect.

BRICKWORK IN BUFFALO, N. Y.



BRYANT HOUSE.
Esenwein & Johnson, Architects.

WALBRIDGE HOUSE.
M. C. Miller, Architect.

DERRICK HOUSE.
Lansing & Beierl, Architects.

POMEROY HOUSE.
Boughton & Johnson, Architects.

MATHEWS HOUSE.
Green & Wicks, Architects.

C. H. WILLIAMS HOUSE.
McKim, Mead & White, Architects.

BRICKWORK IN BUFFALO, N. Y.

The "Settlement House." I.

BY ALLEN B. POND.

IN the year 1884 a group of young English university men under the leadership of Rev. Samuel A. Barnett, the then vicar of St. Jude's, established their home in the Whitechapel district, London. The purpose underlying this enterprise was the desire on their part to bring themselves to bear the more effectively as individuals on the lives of some of their less fortunate fellows; to share their culture, the fruits of their opportunities for education and reading and travel, with men who had been barred by the accident of birth and environment from any chance at life in its larger meaning. They sought to fulfill this purpose in part by quasi formal agencies, but always and emphatically by personal contact, by neighborliness. It was in consonance with this purpose that Mr. Barnett in that year dedicated Toynbee Hall, the first settlement, "to social unification."

TOYNBEE HALL, LONDON, ENGLAND.

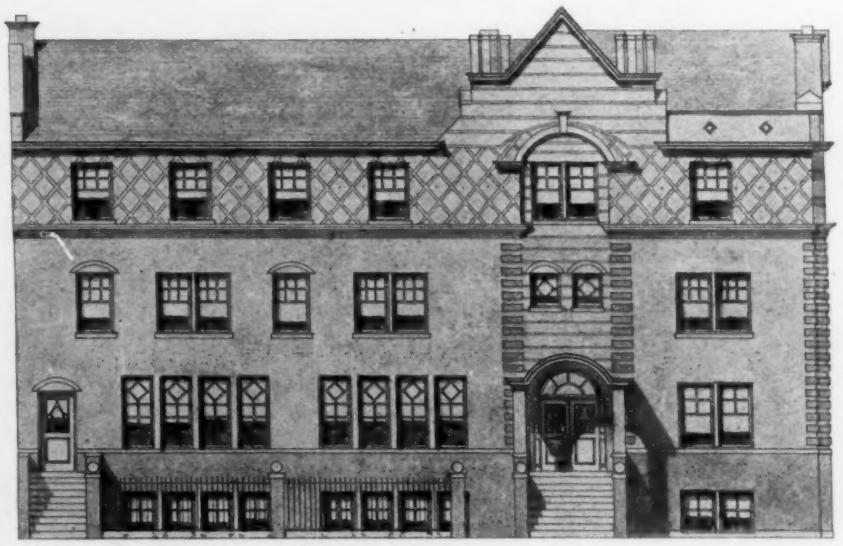
The enterprise that was thus happily launched, by contrast with the ordinary machinery of organized philanthropy, was curiously unique. It did not aim at religious conversion — indeed sought rather to avoid any connection with sects or creeds. It did not aim at the promulgation of specific political or economic doctrines. It did not seek to enter the field of those institutions and organizations that were already engaged in some specialized form of philanthropy. It sought to bring the man who had received the best that the social organization had to offer into a natural and enduring personal relation with the man who had received the least, and to let the relation thus established evolve the determination of the next step. It converted philanthropy of the immovable fortress and heavy artillery type into philanthropy of the light cavalry type; it rendered philanthropy flexible and responsive to a more subtile need than was being met through its established channels.

That the new enterprise, unique though it might be, was not fantastic but was in fact the timely issue of a situation already ripe, was shown by the immediate response. Toynbee Hall, through activities social, recreative and educational, became rapidly an integral part of its neighborhood, enlisting the hearty coöperation of those whose cramped and somber lives it had been its purpose to broaden and to cheer. It furnished a vivid illustration of a way in which one of the most difficult problems of philanthropy might be approached — the problem of creating an organization that should have sufficient coherence for effectiveness without losing the individual in the institution, and that should afford the opportunity of sharing one's best self instead of merely doing or giving things. It became at once a type and an ideal. It drew the eyes of many who were eager to lend help lest the modern city should become in very truth that vision of the poet, a "city of dreadful night." By the year 1900, that is, within sixteen years after the founding of Toynbee Hall, some one hundred and fifty similar enterprises had been inaugurated in the larger cities of England and the United States.

By an analogy not far to seek, the descriptive name

SIDE ELEVATION, NORTHWESTERN UNIVERSITY SETTLEMENT, CHICAGO.

"university settlement" was applied to Toynbee Hall. But the essential characteristic of the movement was not in the fact that it was set on foot by university or college trained men, but in the fact that men who by ability and opportunity had received much from life, had devised a new method of reaching in a normal and intimate way the daily lives of men who had received little. Out of that intimate personal relation would naturally arise the seeking of wholesome recreation, the lending of books, the discussion of books and of topics of the day, the study of vital conditions, the effort to better environment in whatever way the particular situation and immediate need might suggest. Such a movement was manifestly open alike to the college-bred man and the non-college



FRONT ELEVATION, NORTHWESTERN UNIVERSITY SETTLEMENT, CHICAGO.

GERARD RECEPTION HALL,

RESIDENTS' DINING-ROOM,

NORTHWESTERN UNIVERSITY SETTLEMENT.

man, to men or women or both together, to the married or the unmarried or both together, to him who could give his whole time or only the leisure that remained after his own hours of bread earning. So that the general movement has come to be known as the "settlement movement" and such social centers to be known as "social settlements," whether founded by men or women, by the collegian or the non-collegian.

It needs but a moment's consideration to see what a wide and varied field of activity opens before such an enterprise. The activities will vary as do the abilities, training and interests of the groups that organize or make up the several settlement centers or homes, and will be still further varied by the reaction on each of these diverse groups of the environment and the capacities and particular needs of those with whom the group is brought into contact and into coöperation. Everywhere there will surely be clubs for reading and study and debate, lectures, concerts and distinctively social gatherings whose major purpose is frankly recreative. In this place or in that will surely be billiards, bowling, dancing, gymnastics, baths, laundries, kindergartens, crèches, classes in handicrafts, amateur dramatics, cooking schools, coffee houses, resident nurses and doctors and lawyers, penny savings banks, etc. In some places religious work has been superadded to the kind of activities that are more peculiarly the function of the social settlement, resulting in a hybrid enterprise that partakes in part of the character of a settlement and in part of that of the parish house or institutional church.

FIRST FLOOR PLAN.

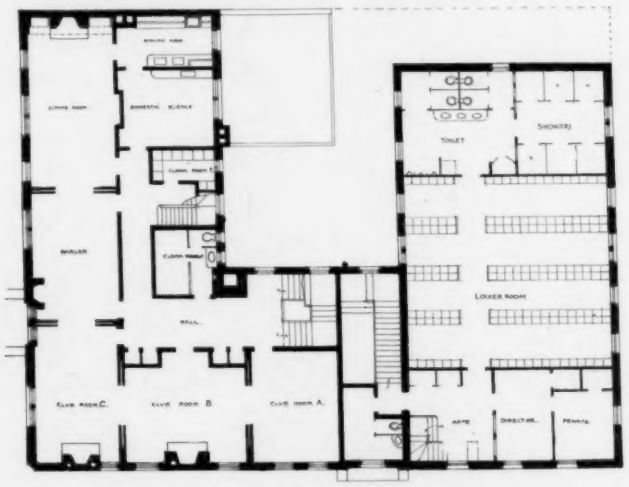
GROUND FLOOR PLAN.

It is natural, indeed almost inevitable, that a true social settlement should in its inception feel its way through small beginnings. It stands for personal contact and must make its first appeal through unostentatious neighborliness. This vantage ground once gained, it will by observation and experiment find its way to broader activities. It has thus happened that with few exceptions each new social settlement at its inauguration has been housed in some already existing building. For its immediate purposes there are to be desired a modicum of creature comfort for the "residents," — that is, the members of the new community,— a certain relative spaciousness to adapt it to larger social uses, and a form, external and internal, expressing, or capable of being made to express, hospitality and homelikeness. Many of the settlements have found the fulfillment of these first requisites in some old mansion that had seen better days; others, environed from the outset in some wholly squalid city wilderness, have had to make the spirit of hospitality atone for the forbidding shell.

Occasionally a settlement has expanded its influence and activities through a considerable number of years without material or conspicuous change in its first chosen home, — such, for example, is the case with the "College Settlement" at No. 95 Rivington Street, New York City. Sometimes a settlement, holding to its first home and keeping that still as the focal point of its life, has gone on widening its territorial boundaries as it has widened the scope of its activities, — such, for example, is Hull House in Chicago, which at first occupied a portion of an old family mansion and which now occupies with its various buildings the whole frontage of a city block. Other settlements, finding their first habitat for one reason or another unsuited to their work, have moved into buildings built for them and expressly designed for their work. This is probably the experience of the average settlement that has passed the perils of adolescence and has established some claim to permanence; and among frequent examples of this class are "Passmore Edwards House," Tavistock Place, London; "University Settlement," 184 Eldridge Street, New York City; "Goodrich House," 368 St. Clair Street, Cleveland; the "Chicago Commons," at Morgan Street and Grand Avenue, Chicago; "The Northwestern University Settlement," at Augusta and Noble streets, Chicago.

This last, "The Northwestern University Settlement,"

by virtue of limitations, in part self-imposed and in part, perhaps, the result of circumstances, conforms more closely to the strict type or form of the social settlement than either of the other Chicago settlements above referred to. Originally housed in a small, three-story, flat building with a twenty-foot front and overflowing with its boys' clubs into an adjacent basement, it moved last fall into its present quarters in a building newly erected for it. The lot, situated at the northwest corner of Augusta and Noble streets, has a south exposure of seventy-nine feet on Augusta Street, from which is its principal entrance, and an east exposure of one hundred and twenty-five feet on Noble Street, from which is an auxiliary entrance and from which, also, by an alley in the rear (north), access is had for fuel and for housekeeper's supplies. In planning and designing this building it was at the outset made a fundamental postulate by the architects that the premises were in essence to be a home, and that an air of homelikeness was to be secured outside and inside in the highest degree compatible with



SECOND FLOOR PLAN.

THIRD FLOOR PLAN.

the conduct of the necessary quasi formal functions and with the limitations imposed by space. A comparison of the photographs of the exterior with the plan will show that at present the portion of the building north of the east entrance is yet to be built. The east entrance, which incidentally serves to give a more direct access to the men's clubrooms in the basement, is primarily intended as an entrance to the auditorium and gymnasium that are to be installed in the fragment yet to be erected. The south entrance leads directly into a large reception hall which is intended to be so designed and so furnished as to serve the double purpose of reception room and drawing-room, effectually doing away with anything tending to impart a formal or institutional flavor. Quiet can hardly be expected to be found on the drawing-room floor of a settlement that has really struck its roots deep down into its neighborhood, but the little library at the right of the entrance is partly detached from the hall and its constant current of active life. Although the family life and the easy friendliness give the settlement keynote, they are only the framework in which other activities are set; incessantly there are serious things to be done, puzzling questions to be faced, quiet interviews to be had, plans to be devised, records to be kept, and the like; and an office must be provided which shall be devoted to this side of the life and work. It is highly desirable that this should be in a position that is accessible, and if it is not a contradiction to say so, where it is both commanding and unobtrusive. In this instance it is sought to meet these requirements by placing the office at the far end of the reception hall, where it opens into the reception hall and also into the thoroughfare leading to the principal staircase, and where, by a set of interior windows, it gives upon the lobby that leads from the auxiliary entrance to the auditorium, the gymnasium and the basement clubrooms. The telephone room opens from the office. Opening from the reception hall is a coat room and lavatory primarily intended for men visitors.

The third story is entirely devoted to the bedrooms of the residents, with the requisite accompaniment of bath, toilet and linen rooms. The south and west portion, allotted to women, is reached by a supplementary stair extending only from second to third story. The north and east portion, reached by the principal staircase, is allotted to men.

At the west end of the second story are the residents' dining-room and its serving-room. The remainder of the second story is chiefly given to a series of clubrooms or parlors opening one into another and thus capable of being used singly or in pairs or in groups as the occasion requires. The corner room is provided with a special equipment of hanging rods and gas lighting for use of the "circulating picture gallery." Opening from the hall are a series of closets and lockers for the storage of the apparatus and equipment appertaining to the work of the several clubs and classes that must necessarily share the use of particular rooms on different evenings. In addition to this series of rooms there are in the second story a small domestic science room, — inadequate, but as large as available space permits, — a residents' private coat room where each resident has a locker for wraps, etc., and a general toilet and cloak room for women visitors.

In the basement are the men's clubrooms, reached by the stairs from the auditorium lobby and by the principal staircase, and the kindergarten rooms, which, in addition to access from inner corridor, are reached through a ves-

tibule from a separate outer entrance under the main south entrance. To insure abundant light and cheeriness in the kindergarten its windows to the southward give on a sunken garden. The basement also contains general toilet room for men, special store and toilet rooms for the kindergarten, storeroom for housekeeper's supplies, locker and toilet room for servants (for the most part not living on the premises), and in the angle to the northwest, boiler, engine and coal rooms in a fireproof basement and half-story portion. The circulating library is provided for in the outer kindergarten room, where a collapsible folding counter and rail are installed on occasion.

When the north wing shall have been built it will provide on the ground floor an auditorium with a small stage adapted for lectures, concerts, amateur theatricals and the like, and in the top story a gymnasium, its noise shut off from the auditorium by an intervening story given to locker, shower bath and physical director's rooms. When thus completed the plant will still lack, owing to inadequate size of building resulting from limited available funds, one or two much to be desired features — *e. g.*, more ample space for cooking-school, boys' clubs and manual training facilities, and a laundry where neighborhood people can have use of tubs and driers. However, with-

COFFEE ROOM,

COFFEE ROOM,

NORTHWESTERN UNIVERSITY SETTLEMENT.

KINDERGARTEN ROOM,

NORTHWESTERN UNIVERSITY SETTLEMENT.

KINDERGARTEN ROOM,

CLUBROOMS,

NORTHWESTERN UNIVERSITY SETTLEMENT.

out these desirable features the building will afford in fair proportion a good working equipment for a social settlement with functions somewhat closely limited to the settlement form.

In addition to the above features there is also on the first floor a small public café, the kitchen for which is at one and the same time the kitchen for the residents' private table. This feature is no essential part of a well-equipped settlement plant, and in a small building it may be questioned whether the required expenditure of space is wholly justified. However, its advantages, provided it can be made self-supporting, are obvious. As placed in this instance it has its own street entrance at the extreme southwest corner, and it also opens through a wide door (double set of sliding and folding, to shut off noise and odors) into the reception hall in such a way that it easily serves as the dining-room on the occasion of large receptions or entertainments, and may be used after close of business hours for club and other purposes. It has its own toilet room, and the kitchen for all uses is directly in the rear of the café, service to the residents' dining-room being by dumb waiter to the upper serving-room.

The number of people who throng a settlement building and the personal habits of some of them make some form of indirect heating with plenum or exhaust change of air exceedingly desirable. In this instance, for that matter in most instances, the funds are insufficient, and a fairly successful substitute has been provided by the use of direct-indirect radiation and numerous fireplaces, the latter serving the double purpose of aiding ventilation and of adding in a marked degree to the homelike aspect of the various rooms. Considered with reference to homelikeness of exterior aspect, the building has the advantage of lowness; and the design has been cast in a style that lends itself to a broad, simple treatment favorable to the desired effect. The walls are of brick trimmed with stone. Basement and rusticated work are faced with a purplish gray brick and the masses above with a red brick of mottled shading, the diaper pattern being in buff brick. The stone is "blue" Bedford limestone. The mortar is uncolored except for admixture of some Milwaukee hydraulic cement to the lime. The slopes of the roof are covered with "unfading green" slate. There is yet to be provided the iron fence surmounting the walls of the sunken garden and enclosing the bit of turf at the street corner.

LONDON ARCHITECTS.

THE *British Architect* quotes the statement that a Building Trades Directory indicates the addresses of some sixteen hundred architects in London. In some of our newer towns we occasionally see a statement to the effect that there is not as much opportunity in the older cities as there is in the growing West because the old cities are already built over and there is not so much demand for an architect's services; but the number of London architects, who are in the ratio of about one architect for about every two hundred and fifty families, would seem to indicate that the demand for such services as they can offer has not entirely ceased. It is stated also that there are only four landscape gardeners in London, and two of these are father and son.

Fire-proofing.

THE FIRE-PROOFING OF HIGH OFFICE BUILDINGS.*

THE high office buildings have been made a success by the possibilities of construction that have been developed with them. They were first built with brick walls, and the highest reached to sixteen stories with this material for support on the outside, as at Chicago, even with its compressible soil and floating foundations. Skeletons of cast-iron columns and rolled-iron beams were going up to the same height at the same time. The whole-steel skeleton came when the introduction of rolled steel superseded rolled iron, and it has continued to be the standard construction for these and many other kinds of buildings ever since.

But the possibility to attain this great height with safety came with the inventions of the fire-proofers; to speak more accurately, the inventors of light hollow-tile systems of floor construction. The weight of floors was reduced before the weight of walls. Up to 1881 the average of fillings between I beams of buildings having combustible floors was seventy pounds, whether with brick arches or with corrugated iron covered with concrete. They were at one stroke reduced to thirty pounds by the use of flat hollow-tile six-inch arches in the nine-story Montauk Block at Chicago. You all know what that means in computing the strength of foundations, walls and columns. From that time the number of distinctively high office buildings increased rapidly. Other inventions followed, though as a matter of history the iron rail and concrete foundation (now nicknamed the "floating" foundation) was first used under the same building. It was one of the accidents of my life that I supplied both.

The steel skeleton having become an accepted fact, heavy walls, both exterior and interior, have been practically abolished. The earliest high office buildings had not only exterior but interior walls of brick wherever the conditions of the plan would make their use practicable. In addition they were filled with stacks of heavy brick vaults which were permanent fixtures placed where it was supposed there would be a demand for them. Tenants had to select such quarters as suited them according to the original plan of the building, as changes in plans were very expensive and often impracticable. But when the all-steel skeleton abolished the heavy wall it also abolished the vault, and in abolishing the vault it warned all concerned that the fire-proof qualities must be of such a high grade that the whole building would be a fire-proof vault. So the fire-proof closet had its birth. This was one stimulus to a greater study of fire-proofing conditions.

The modern office building so far as it can be seen when completed is practically built by the fire-proofer. His methods render common bricks, on which the main dependence was formerly placed, quite unnecessary. The first great change after the all-steel skeleton was de-

* By Peter B. Wight, F. A. I. A., Consulting Architect. Read before the Engineers' Society of Western Pennsylvania, Pittsburg, May 20, 1902.

veloped was the substitution of the hollow fire-brick, or "hollow tile," as it is called, for the common brick ; and this was only possible by the use of refractory clays instead of brick clays. It was carried to such an extent in the erection of the eighteen-story Fisher Building at Chicago that in this building, which fronts on three streets, there are no bricks except a few that the contractor for external terra-cotta used in filling chinks behind his terra-cotta wall. Even the dead wall is all built with terra-cotta (meaning thereby that made by the contractor for exterior work) and hollow tiles. This illustrates to what extent the hollow tile (meaning such as is made by the fire-proofer), as well as the manufactured terra-cotta, have contributed to the development of the high office building.

I am aware that it is contended by many men of your profession that concrete in combination with metal is a better fire-proof material for constructive purposes than hollow building tile. I agree with you that in some cases it is, and therefore will not seek to provoke discussion. But the fact remains that the hollow building tile made of refractory clay is the material which has actually developed the high office building as we find it to-day, and I think it will always hold the most important place in such constructions. For while the common brick has been to a great extent supplanted, the wall and the arch have not gone out of use. The wall has only been reduced in thickness and in weight, and the weight of it has been reduced in greater proportion than the thickness. Long walls and high walls unsupported are no longer necessary, but they cover just as many superficial feet in height and breadth as before. The mason with his trowel is just as necessary ; and while there are many ingenious methods for constructing subsidiary partitions without hollow tiles and without the help of the mason, there is still no way known for building the exterior walls or the main interior division walls of a building with the greatest rapidity in all kinds of weather and without the use of unnecessary quantities of water except with previously prepared dry blocks of refractory material, and of such only are the hollow tiles of burnt clay. Where an arch of large span is required, whether it be a large door, a dome or a wide span between deep floor beams, there has not yet been invented anything that is lighter for the work required, drier, more fire-proof, more rapidly constructed and cheaper than the products of fire-clay set in good cement. Yet there are substitutes, and they have their value, and for special purposes are desirable.

The special qualities and true value of this material and the kinds that are most reliable for fire-proofing purposes will be considered when the conditions affecting a truly fire-proof office building are considered.

The main conditions to be considered are (1) the plan, (2) the materials, and (3) the constructive methods.

THE PLAN.

The plan belongs to the architect, and if he consults his engineer it will be a very simple one. It is safe to say that the best planned office building on a rectangular lot will be one that is worked out on a system of smaller rectangles into which the lot is subdivided, with a column at each intersection. The main thing to do is to ascertain the best proportionate dimensions for these rectangles. If they are all the same there will be only two dimensions for all the girders and beams in the building. Such an arrangement will result from making several sketch plans upon different subdivisions into rectangles until the best one is discovered. If this is found to be impracticable the system should be abandoned; but if possible the girders should be in straight lines, and the width of the exterior bays should be controlled by the spacing of interior columns. The general dispositions of the plan being adopted, the next thing to do (and one which few architects ever consider) is to study all the contingencies that would permit fire to attack such a plan from without or invade it within. Every high office building is by its nature a flue, and the problem has heretofore been how to make it less so. So many have despaired of this that I am inclined to say that what might be possible in a great warehouse, in which vertical draughts can be avoided, need not be thought of lest the true value of the building as an investment be destroyed. I would therefore advise that the natural flue conditions of a high office building be improved by planning it so that the natural draughts which carry fire upward will as far as possible be directed away from the inhabited rooms and allowed to escape harmlessly through the top of the building. This can be accomplished by permanent flues built of double air-space hollow tiles running through the offices where they are least likely to interfere with future changes of partitions. These flues can be covered at the top with skylights of thin glass which would break in case of fire, while permanent capped pipes, also at the top, would serve for ordinary ventilation. The openings from the offices into these shafts should be permanent, and close to the ceilings. Such flues would carry fire and smoke through the roof and prevent it from spreading laterally. Large glass-covered courts should be avoided, as they tend to carry smoke and fire to upper stories and smother the occupants. As elevators may become as valuable as stairways for means of escape, they should if possible be placed not in one stack but in two, and as far apart as practicable. In large buildings this would be a convenience to tenants in reaching their rooms expeditiously. Every large office building should have two entrances connected by a common hallway, and it is equally important that it should have two stairways from the second story to the top and as far apart as possible. They should not be in position where a rising current of air can involve both a stairway and a stack of elevators. Theorists have sometimes claimed that stairways and elevators should be individually isolated. Such a disposition would so injure the value of the investment that it should not be considered. Besides, an isolated stairway in case of a panic would be unknown to most of the occupants or visitors to such a building. With two vertical stacks of stairways and two vertical stacks of elevators, all connecting with corridors, it would be practicable to place spring doors across the corridors which would isolate each stairway and each stack of elevators. Such cut-offs in the corridors should be entirely made of light metal frames and polished wired glass. This latter material will also be considered later on in connection with "Materials of Construction," but as part of the plan of the roof it should take an important place. There are many instances in which the study of the natu-

ral action of fire in the top of a building shows that it is desirable to use glass that will break as soon as attacked by fire, so as to let the flames and smoke escape. The indiscriminate use of wired glass, therefore, because it will admit light and still resist a current of fire is not to be encouraged, and it is easy to see that it might be the cause of many deaths from the accumulation of smoke which cannot escape. It is much more important that skylights should be of breakable glass, and to prevent injury caused by its fall they should have wire nets suspended beneath them. There should be such skylights over every elevator and every stairway, and if skylights are not required over them, as in the case of their being next to outer walls with windows, they should have large ventilators running through the roofs.

Any suggestions as to the capacity of elevators, stairways, corridors and doors seems hardly necessary here, for they are the important considerations which enter into the planning of every building and are equally if not more important in a high office building than any other. The objects of a properly built high office building other than the interest of the owner as an investment are safety to human lives and safety to the property contained in the building, as well as the building itself, as against fire.

THE MATERIALS.

This brings us to the second consideration — materials. That such a building must consist of fire-proof materials reënforced with the commonly accepted steel frame has been said. For the exterior, terra-cotta and brick take first place, but these are not necessarily backed with brick. Where they are not, the only material that has been used successfully is hollow fire-clay tile. I have never yet heard it suggested that such materials as concrete or hollow plaster blocks should be used. It is now customary in the best buildings to construct the floors and protect the columns and girders before the exterior is covered. The exterior walls are not sufficient to protect the exposed columns and beams at the outer line of the structure. They are only a mask and may fall away, exposing the structure. These columns and girders should be first protected exactly as are those of the interior. Various methods are in use. By some it is advocated that they should be encased in Portland cement concrete, completely buried in it, but it is not suggested that any fastening is required other than the adhesion of the cement to the steel and its own monolithic character. This method denies the necessity for any non-conducting air spaces. I know of only one building in which this was ever done; it was owned by a fire insurance company in New York, and it was done twenty years ago. The columns, which were of the Phœnix pattern, were covered with Portland cement run from a cornice mold and showing a molded finish all around. By others it is proposed to plaster the columns with cement on a lathing of wire or other perforated metal, and where one process like this is not considered sufficient it is proposed to repeat it twice and even thrice. This is frequently done, and its chief merit is its cheapness. The common method is to build hollow-tile blocks around the columns like a wall, and in some cases two courses of these are used. In severe fires which have occurred in several buildings it has been demonstrated that the exterior layers of these crack, for the reason that the exterior expands, while the interior is cool. The worst defect in the use of hollow tile around columns is that no provision is made for longitudinal expansion. They are built from the girder of one story to the girder next above. As a result it was demonstrated in the last fire that occurred in the Horne Department Store at Pittsburg that before the steel columns had absorbed enough heat to cause expansion the hollow-tile coverings were so badly crimped by expansion against the unyielding girders that many of them fell off. In an earlier fire in the Horne Office Building at Pittsburg, in 1897, the column coverings, which were of thick slabs of semi-porous terra-cotta built as a wall around them, were uninjured. My earliest practice was to use solid blocks of a very high grade of porous terra-cotta both for columns and girders. For column coverings I always secured them to the iron with tap screws. For girders I made the blocks to fit the sections of I beams, and found that no fastenings were needed, for the form of the I beam is such as to hold the blocks tight between the flanges when well bedded in cement. Cast-iron columns, covered with porous terra-cotta two and one half inches thick, fastened to the iron with tap screws, were tested in a fire in the Grannis Block at Chicago in 1885, where they were pulled out of the ruins with all the fire-proofing attached. There was nothing fire-proof in that building except the columns. I am now satisfied from experience of all the known materials in actual fires that the softness of porous terra-cotta is almost as objectionable as the brittleness of hard-burnt, thin-bodied tiles, and that the best fire-proof material is the medium between them, and that is semi-porous, hollow tiles with walls at least three fourths of an inch thick. The best illustration of their efficiency was seen in the Horne Office Building at Pittsburg in 1897, the material having been made in your own city, Pittsburg.

Whenever a contract is let for the fire-proofing of a building with clay products, the lowest bidder who secures the contract executes it with the kind of material he can make to the best advantage — it is the product of the clay he happens to mine. It may be suitable for the high-grade porous material or only for hard-burnt tile. But the best material to produce the results above suggested can only be made by mixing clays — in their natural state they are not suitable. This should be a subject for investigation and study by every manufacturer, so that a reasonably uniform standard article can be produced. It was the good fortune of the Pittsburg Terra-Cotta Lumber Company, which made the material that went into the Horne Office Building, to produce a tile with their own natural clay which filled every requirement for a fire-proof material, and which had the necessary toughness and refractory powers to resist extreme heat. Other clays may resist heat, but lack toughness; they become brittle and are not fit for hollow tiles with thin walls. Others again can be burned with large quantities of sawdust, and are wonderful non-conductors, but are too soft and not suitable for resisting severe strains. My own observation has shown that in most localities shales may be obtained which, when ground and burned with low-grade fire-clays, produce the best material for semi-porous terra-cotta.

Too little attention has heretofore been given to

standard qualities in burnt-clay fire-proofing. When a standard is established, recognized and insisted upon by architects, there will be some hope for uniformity in results. As it is, there may be several kinds of burnt-clay fire-proofing used in one city, and I know of some buildings in which the clay used was not above the grade required for ordinary flower pots. Where used, however, it was the result of indiscriminate competition and want of investigation. As a matter of fact most of the buildings fire-proofed with burnt clay contain the highest grade of material. But the world will never see this fact demonstrated by the ravages of fire. It has never given the fire-proof office buildings that have been erected within the last fifteen years the credit that is due them, and it never will. It only hears of the occasional one that shows failure in a crucial test. Those that have resisted the elements are dismissed with a paragraph. An occasional failure is not a demonstration that others may be expected. When it betrays the fault or the weakness it should be an object lesson that is profitable. I regret, however, that this is not always the case. I wish the men of my own profession would take as much interest in scientific investigation as you do.

The value of wired glass has been referred to. In an office building it will prove to have its greatest value when used in vertical positions where glass is necessary. It should also be used in all external windows wherever possible. But it should always be set in metallic sashes and frames. The supposed necessity for using wood in partitions, for door and window frames, has led to many demonstrations of the fact that this use has helped to destroy the efficiency of the fire-proof materials of which they have been constructed. Experience has also shown that wood should be practically abolished from the interior finish of office buildings, and this can be done now without raising any objections on the part of the tenants. Recent inventions have supplied all that is wanted. There is no longer any necessity for wooden floors. Notwithstanding it has been claimed that they will not burn, they *do* burn, and the oil and varnish which saturate the modern hard-wood floors carry fire with great rapidity. The tenants have already anticipated the change, for they have abolished carpets and substituted rugs. If marble and tile are too expensive for floors, cement can be used. A very valuable substitute for cement finish has recently been invented, called "monolith." Doors need no longer be made of varnished wood, but of common wood covered with sheet brass and hung to metallic frames built in fire-proof partitions.

THE CONSTRUCTIVE METHODS.

Referring now to the third division of my subject — constructive methods — I feel compelled to tread my path with caution, for I may be invading the domain of the C. E. All discussion of constructive methods in fire-proofing seems to lead to the building of floors, and this is where the C. E. has crossed the path of the architect more than once. The fact that extraordinary strength has been developed in constructions in which various combinations of Portland cement, sand and steel have entered, has made them very attractive to gentlemen of your profession. I admit the strength and the ability to prevent fire from passing from one story to another within a given time, and to one who seeks only for these results they are satisfactory. But house building has many ramifications. The conditions under which houses are built are various. Among the most important of these are *time* and *climate*. Another one is permanence. The oldest of the indestructible manufactured materials known to exist on the face of the earth is burnt clay. Time may show that the high grades of cement made at the present day come next to it, but we cannot wait for the outcome. Finely divided steel, with which it is combined, is a very delicate material, and scientists all over the world are discussing the question "What is the best material to paint steel with?" — even where it is used in heavy members of construction. At such a time you will see if you look at nearly all of the high office buildings that have been erected and are now being erected, that the architects who have to do with those buildings pin their faith to burnt clay. They have no time to wait and see whether the cement will eat the steel or preserve it, but they know that they have a good thing in clay, and as long as it is the only material which makes possible the building of furnaces in which iron can be made into steel, they will continue to build it up around the steel skeleton; and I hope it will preserve the steel skeleton for all time. For as the steel must be protected from fire and every inch of it covered, it is certain that when protected from one element it will be found to be pretty well clothed against the storms that try to beat against it and the insidious dampness that steam heat expels. However, I suppose that the discussion about corrosion will last until we have steam-heated bridges, and about electrolysis as long as we have damp cellars.

I have said that the architect will always be a believer in *the brick* and its substitutes, and his affection will always cling to his brother, the mason, even though houses may be built without heavy walls. With these materials and his skillful assistants he does not fear that terrible enemy to cement, Jack Frost, and he can get his work done fast enough to suit his client, which is saying a great deal. These are the convincing arguments for the use of burnt clay. My only plea is that this most important and universal material may be in the future the object of greater study for the purpose held in view in this paper; that as much investigation and experimentation will be devoted to the determination of the proper methods for manufacturing of clay products into fire-proofing material as has been given to the adaptation of clay for use in the manufacture of steel. Its indestructibility is admitted; but it has a different office to perform in the burning building from what it has in the open hearth furnace. It can be made, for it has been made, to withstand water as well as fire. By proper mechanical means it can be made to keep its place under all conditions. It has also a field in constructive work such as has been developed by no other material, in the building of domes such as those erected by Guastavino. Whatever apparent failures there may have been in this as a fire-proofing material are exceptions to the general practice that has been followed in its use, and only serve as a warning against its unscientific and unpractical application.

Selected Miscellany.

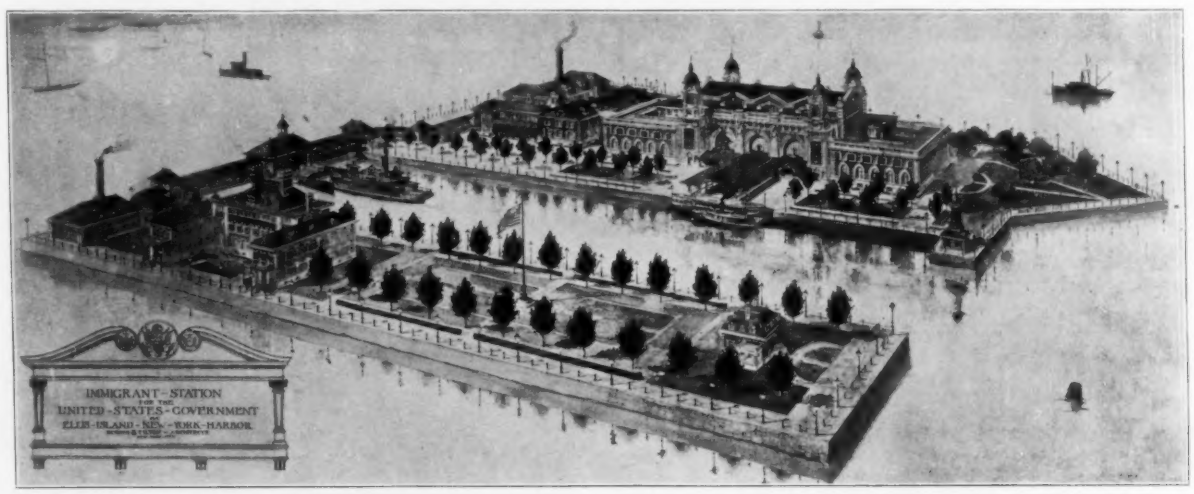
FALL OF THE CAMPANILE.

AS we go to press, the daily papers publish telegrams from Venice stating that the Campanile of St. Mark's has collapsed into a heap of ruins. This structure was begun in the year 888, but in its present form it dates from the close of the fifteenth century. It consisted essentially of a plain shaft of brick, broken only by slight projections on each face, carried up to form a series of pilasters connected by arches at the top, the whole crowned by a quite elaborate loggia or upper story of stone, consisting of an order with full entablature and a high attic, above which was a pyramidal roof. The published details so far are too meager to assign any cause for the break. The body of the tower was very solidly constructed, with walls about five feet thick built out of flat, square bricks, giving an effect on the exterior similar to what we now style the Roman brick, though the bricks were actually some sixteen inches square in plan. Inside of the tower is a ramp which extends from the ground floor to the loggia, on a gentle incline, being enclosed towards the center by continuous piers and arches which are also solidly constructed. The destruction of a monument of this sort is a great loss to the artistic world. It could very easily be replaced, but it is doubtful if Venetian finances would make such replacement probable unless outsiders gave their aid.

DETAIL BY CLINTON & RUSSELL, ARCHITECTS.
Excelsior Terra-Cotta Company, Makers.

PERMANENCE IN BUILDING.

APROPOS of the fall of the Campanile of St. Mark's, we were asked by an inquisitive reporter whether the buildings which are built to-day would stand any better or longer than the buildings dating from the period of the Campanile construction. In these days of large building enterprises, when, especially in commercial buildings, everything has to give way to considerations of return on the money invested, and where time is of such tremendous importance, it is very easy to slight the hidden portions of a building and it is also easy to greatly overestimate the importance of saving time; or, in other words, time saved in the rate of construction does not always imply money saved in the long run. We believe that the best of our modern buildings are far better constructed than the best of the buildings erected during the time of the Italian Renaissance; but a very considerable number of our recent structures are hurried to such an extent that while the immediate safety of the building may not be impaired, its life is undoubtedly shortened. The head of one of our largest building concerns, who has won a reputation of doing more work in less time than any other one contractor in the country, recently made the statement that in his judgment it was not possible to build a commercial building well in less time than one year. He had repeatedly done it in less than seven months, but always under protest and with the conviction that the best interests of the investors were not considered. If we build our large buildings to last



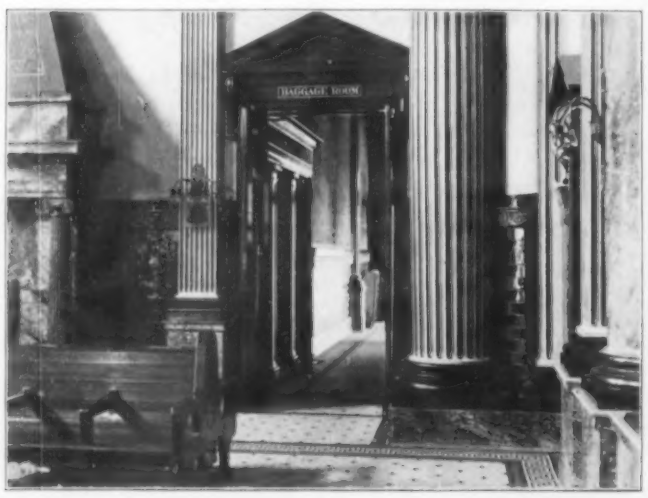
DETAIL BY PARISH & SCHROEDER, ARCHITECTS.
New Jersey Terra-Cotta Company, Makers.

twenty or thirty years the masonry can be thrown together in almost any way, but if they are to be built with the idea of permanence, time is worth far more put into good construction than a few thousand dollars earnings the first year.

VALUED INSURANCE.

IT is some years since the legislature of New Hampshire passed the law providing that "if insured buildings are totally destroyed, the sum insured shall be taken to be the value of the insured's interest therein, as such interest is described in the policy, unless over-insurance thereon was fraudulently obtained. If they are only partially destroyed, the insured shall be entitled to his actual damages not exceeding the sum insured." Under this law policies issued in New Hampshire are what are known as valued policies. The passage of this law called forth very strong protests from the companies interested, who claimed that it provided an opportunity for excessive over-insuring, but the report of the insurance commissioner, which has just been issued, seems to show that the statute as a whole has not been a disadvantage either to the insurance companies or to the insured. Such a law throws on the insurance companies the burden of valuing the property before it is insured. In other words, they have to act exactly as a loan or mortgage company does before it will make any advance of money upon real property. In other states a man can buy as much insurance as he chooses to pay for in premiums, but when it comes to a loss the company will pay no more than the actual proved damages. This very often works a hardship, which is entirely obviated by the New Hampshire law, for there, if a company is willing to accept premiums on a one hundred thousand dollar policy, for instance, and there is a total loss, the company is obliged to pay the whole face of the policy. It can readily be understood that such a law, given a combination of agents only desirous of writing large policies, and owners who are quite ready to see their property disappear in smoke, would result in excessive frauds; but on the other hand it can fairly be claimed to be the business of the companies not to over-insure. They have to settle the losses in case of fire, and they ought to be equally competent to determine the value of the property in advance. In the case of an honest man who is desirous of protecting himself it would seem no more than fair that he should have the measure of protection that he pays for; and accordingly, while recognizing that there are outs from both standpoints, it is our conviction, based especially upon the results of the application of the law in New Hampshire, that the valued policy is a move in the direction of protecting the interests of the honest insured person, and that its extension to other states would work good rather than harm.

MASONIC TEMPLE, MERIDIAN, MISS.
Krouse & Hutchisson, Architects.
Built of Brick made by the Hydraulic-Press Brick Company.



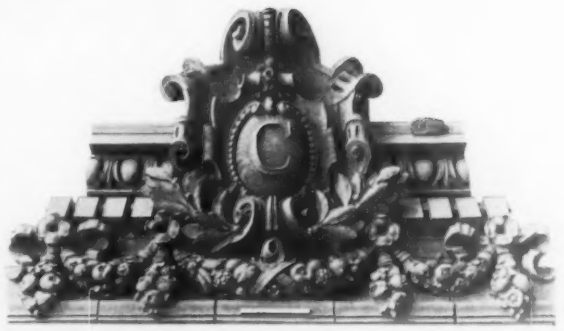
INTERIORS OF RAILWAY STATION AT DAYTON, OHIO, SHOWING TILE WORK BY HARTFORD FAIENCE COMPANY.
Elzner & Anderson, Architects.

BRIDGE DESIGN.

A CONSIDERATION for æsthetics is surely not the strongest feature of an engineer's practice, and very few of the large bridges which have been erected in this country have the slightest pretense to beauty. The Brooklyn Bridge has been cited as an example of harmonious lines, and seen at a distance, where its magnitude can be viewed by comparison with cities on each side, it certainly appears as an admirable feature, but it hardly would be fair to ascribe any innate æsthetic qualities to the towers, and the beauty of the lines of the cables is due to nature far more than to art. There has been growing, however, a feeling that our bridges are public monuments, and that they demand a certain artistic treatment in their design. The new bridge over the Charles River, between Boston and Cambridge, has been designed by Mr. Edmund M. Wheelwright and promises to be one of the handsomest structures of its kind in this country, if not in the world. The new East River Bridge between New York and Brooklyn is a colossal monument of engineering ugliness, but evidently the Boston example is not without its weight in New York, for we notice that Mr. Henry F. Hornbostel has been appointed consulting architect to the New York Department of Bridges. How much this may mean remains to be seen; but all those who know Mr. Hornbostel will feel that if the New York bridges of the future are not materially better than those in the past, in an æsthetic sense, it will surely not be his fault, for he is exceptionally well trained for just this kind of work.

HOUSE AT LAWRENCEVILLE, LONG ISLAND, N. Y.
T. Henry Randall, Architect.

DETAIL EXECUTED BY THE NORTHWESTERN TERRA-COTTA COMPANY.



DETAIL BY ALDEN & HARLOW, ARCHITECTS.
Perth Amboy Terra-Cotta Company, Makers.

BRICKS WITH TAR.

A NOTICE in one of the recent architectural papers refers to a patent which has been taken out in Germany for a kind of brick made with porous concrete and

PORTICO, BAPTIST HOME, BROOKLYN, N. Y.
W. E. Parfitt, Architect.
Terra-Cotta made by New York Architectural Terra-Cotta Company.

saturated with tar, for building into walls in place of the ordinary wood brick for nailing grounds and finish. The use of wood bricks at all or anything like them is hardly a commendable practice from a fire-resisting point of view, but to manufacture bricks out of concrete and tar is courting disaster. We remember some years since a fire which occurred in a building, supposedly of fire-proof-construction, but in which the filling between the beams was composed of cinders mixed with quite a proportion of coal screenings, with the result that the so-called fire-proof construction actually took fire and was partially consumed. It is pretty hard to improve on terra-cotta as a fire-resisting material, and its quality surely would not be enhanced by the addition of any such construction as coal tar.

PLUNGE BATH, GYMNASIUM, COLUMBIA COLLEGE,
NEW YORK CITY.
McKim, Mead & White, Architects.
Enameled Brick used made by American Enameled Brick Company.

BOOK REVIEW.

ESTIMATING FRAME AND BRICK HOUSES: a Practical Treatise on Estimating the Cost of Labor and the Quantities of Materials in the Construction of Frame and Brick Houses, and of Stables, Barns, etc. By Fred T. Hodgson, Architect. Second edition, revised and enlarged. With scale drawings and other illustrations. New York: David Williams Company, publishers. Price $1.00.

A book of this sort can be a great help to a builder and often is of advantage to an architect in making rough estimates. Such a work has naturally to be used with discretion, and no hard and fast rules can be laid down by which one can say in advance what a contractor will probably charge for a house. The personal equation enters into all such things and cannot be described in books. We remember one builder who habitually never figured a building in detail, but looked the plans over very carefully and compared them with structures he had built, thereby arriving by a species of deduction at a contract price, and he was uniformly successful in being able to build his buildings at a profit. But ordinarily one has to take everything in detail, and for such purposes this book is a very valuable guide. The architect's work is far easier when the builder is able to form a logical, intelligent estimate, and a good deal of trouble with extras is obviated if the builder is able to follow a systematic method in taking off his quantities, such as is set forth in this book.

PATROL HOUSE, CINCINNATI, OHIO.
Boll & Taylor, Architects.
Roofed with American S Tile.

ADDENDA.

In the preparation of the designs submitted by Mr. Herbert D. Hale in the competition for the Government Hospital at Washington (see illustrations in plate form of THE BRICKBUILDER for June) Mr. Hale was assisted by Mr. George B. de Gersdorff, formerly with Messrs.

RAILWAY STATION, LEBANON, PA.
Wilson Bros. & Co., Architects.
Built of "Ironclay" Bricks made by the Columbus Face Brick Company.

McKim, Mead & White but now located in Washington. This fact was not noted in connection with the illustrations, at time of publication.

IN GENERAL.

John Galen Howard announces the removal of his office to 156 Fifth Avenue, New York City.

Elmer L. Gerber and Louis Lott, architects, have formed a copartnership, with offices in the Reibold Building, Dayton, Ohio.

The following is the complete list of officers and committees of the Architectural League of America for the year 1902–3:

Executive Committee: President, Frederick Stymetz Lamb, New York; vice-president, Clarence H. Blackall, Boston; treasurer, Julius F. Harder, New York; corresponding secretary, H. K. Bush-Brown, New York; recording secretary, William E. Stone, New York; Frederic Crowinshield, New York; David Knickerbacker Boyd, Philadelphia.

Publicity and Promotion: Ernest J. Russell, chairman, St. Louis; Joseph C. Llewellyn, Chicago; Frederick Stymetz Lamb, New York.

Codes of Ethics and Competition: Julius F. Harder, chairman, New York; Frederick W. Striebinger, Cleveland; Charles M. Shean, New York.

CITY HALL, BIRMINGHAM, ALA.
D. A. Helmick, Architect.
Built of Gray Speckled Brick made by the Columbus Brick and Terra-Cotta Company.

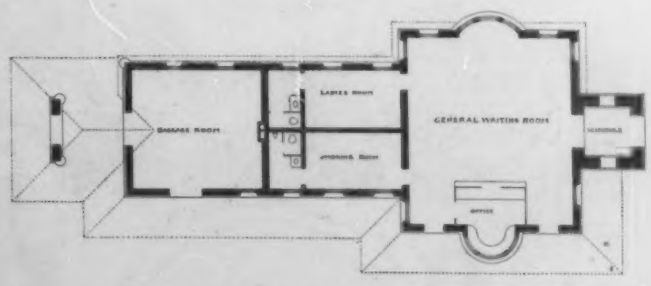
Exhibition Circuit: William Laurel Harris, chairman, New York; Walter H. Kleinpell, Chicago; Carleton Monroe Winslow, New York.

Current Work: Charles C. Pfeil, chairman, St. Louis; William C. Hays, Philadelphia; J. P. Hynes, Toronto.

Education: Emil Lorch, chairman, Detroit; Percy Ash, Washington; John W. Case, Detroit.

Publicity and Records: Emil Lorch, chairman, St.

RAILWAY STATION, ROCK ISLAND, ILL.
O. Z. Cervin, Architect.



PLAN.

Louis; Albert E. Skeel, Cleveland; Herman Kregelius, Cleveland.

Supplementary Committee on Publicity and Promotion: David Knickerbacker Boyd, chairman, Philadelphia; Clarence H. Blackall, Boston; James M. Hewlett, New York; Albert E. Skeel, Cleveland; Dwight Heald Perkins, Chicago.

TEMPLE FOR THE CONGREGATION ANSHE (RUSSIAN), NEWARK, N. J.
Nathan Meyers, Architect.

The Blue Ridge Enameled Brick Company was awarded the gold medal for enameled brick at the South Carolina Interstate and West Indian Exposition, Charleston, S. C.

Pfotenhauer & Nesbit, manufacturers' agents, New York City, report the closing of contracts on the following list of new work: Front brick — Battery Place Building, New York City, H. J. Hardenbergh, architect; Republican Club, New York City, York & Sawyer, architects; Bank of Metropolis, New York City, Bruce Price, architect; residence of James A. Burden, Jr., New York City, Warren & Wetmore, architects; telephone buildings, New York City, C. L. W. Eidlitz, architect; residence for Mr. Blumenthal, New York City, Hunt & Hunt, architects; Young Men's Christian Association Building, New York City, Parish & Schroeder, architects; Old Ladies' Home, Harrison, N. Y., Bruce Price, architect; C. B. Newbold's residence at Jenkintown, Pa., Guy Lowell, architect, Boston; residence for Hugh D. Auchincloss, New York City, R. H. Robertson, architect; residence at Morristown, N. J., George A. Freeman, architect; Home for the Aged, Brooklyn, N. Y., Lord & Hewlett, architects. Roofing tile contracts — Hall of Records, New York City; United States Printing Office, Washington, D. C.; power house, New York City; Saks & Co., mercantile building, New York City; residence at Tuxedo Park, N. Y.; residence at Fisher's Island, N. Y.

The Standard Terra-Cotta Works have completed the terra-cotta work for the following new buildings: R. H. Macy & Co. building, Broadway, New York City, De Lemos & Cordes, architects; Century Building, 72 Broadway, New York City, Bruce Price, architect; Pitcairn Building, Arch Street, Philadelphia, Hewitt Bros., architects.

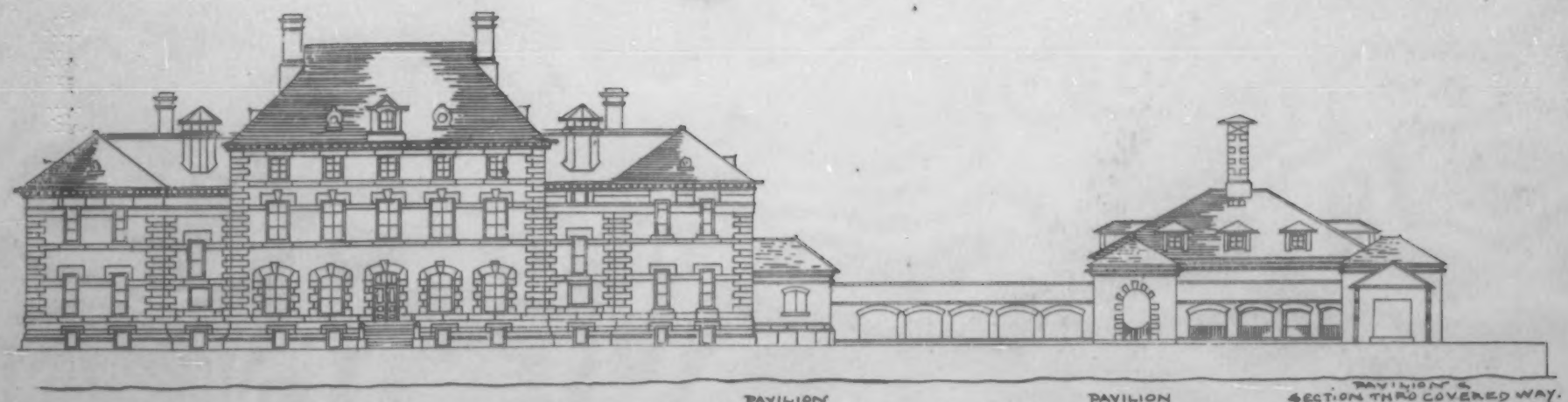
DETAIL BY WINSLOW & BIGELOW, ARCHITECTS.
Atlantic Terra-Cotta Company, Makers.

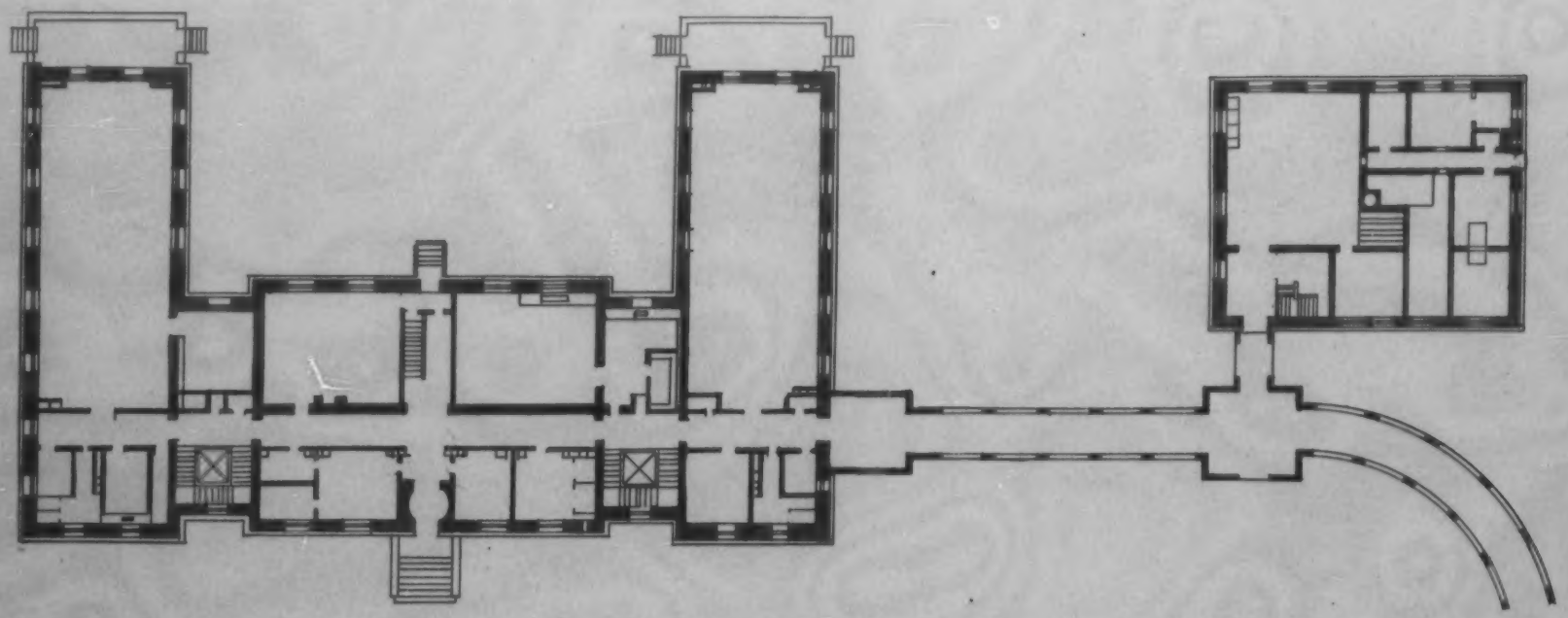
DETAIL BY JAMES H. WINDRIM, ARCHITECT.
Conkling-Armstrong Terra-Cotta Company, Makers.

DRAUGHTSMEN WANTED.

Draughtsmen Wanted — Familiar with architectural terra-cotta work. Apply by letter. Perth Amboy Terra-Cotta Company, Perth Amboy, N. J.

We require an additional draughtsman in our drawing department. Permanent position. Address Excelsior Terra-Cotta Company, 105 East Twenty-second Street, New York City.

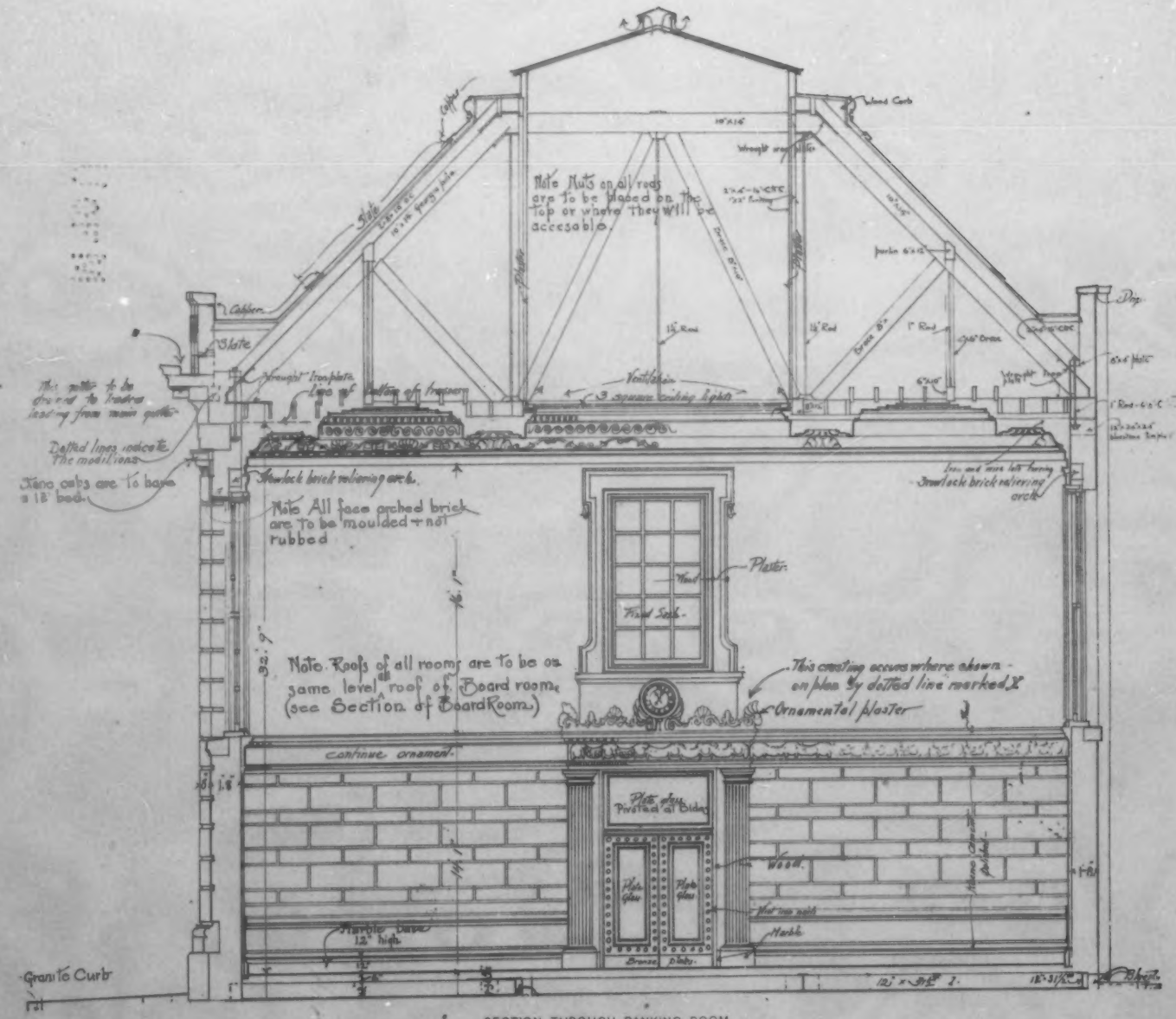




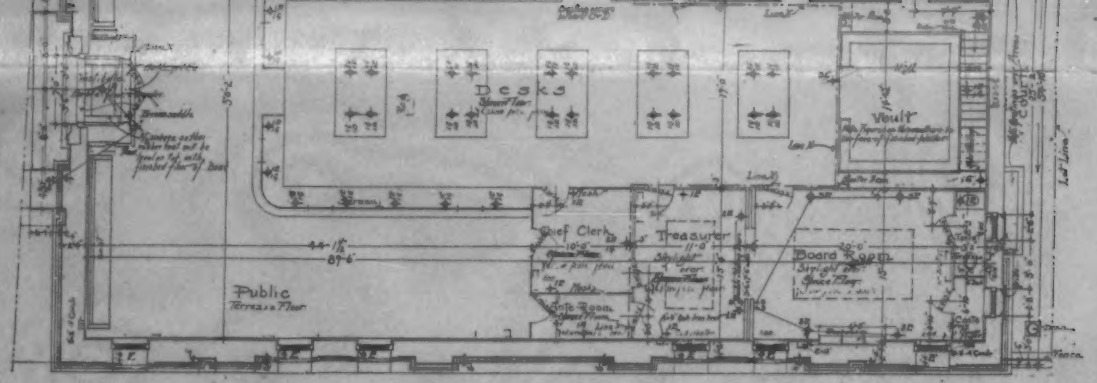
FIRST FLOOR PLAN.

HOSPITAL BUILDING FOR IMMIGRANT STATION FOR THE UNITED STATES GOVERNMENT, ELLIS ISLAND, NEW YORK HARBOR.

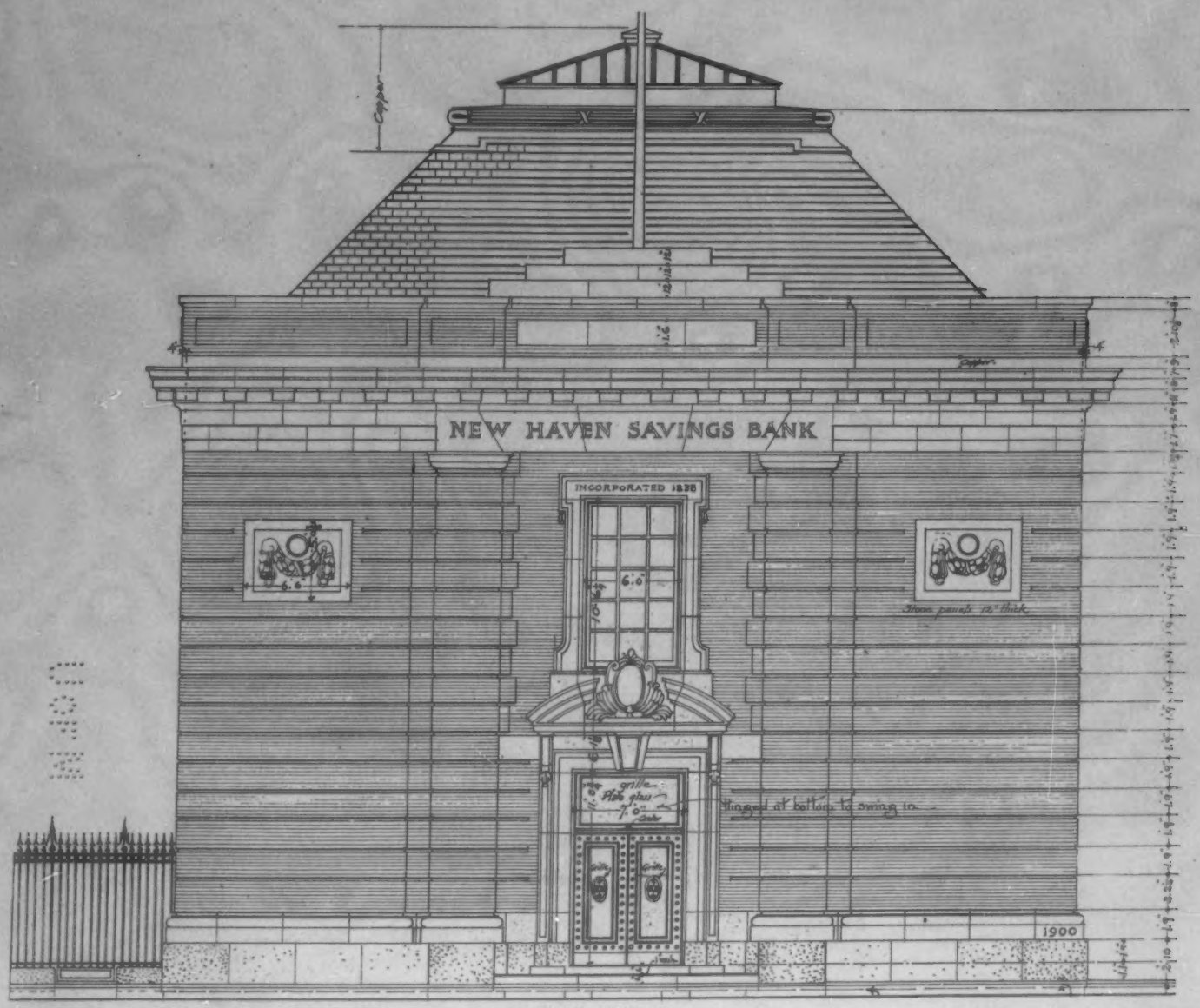
BORING & TILTON, ARCHITECTS.


Note Nuts on all rods are to be placed on the top or where they will be accesable.
Note All face arched brick are to be moulded + not rubbed
Note Roofs of all rooms are to be on same level roof of Board room. (see Section of Board Room.)
This casting occurs where shown on plan by dotted line marked X
Ornamental Plaster
Granite Curb
Plaster
Wood
Marble
Bronze
Public
Court
Desk
Vault
Toilet Room
Book Vault
Lobby
Closet

SECTION THROUGH BANKING ROOM.



FIRST FLOOR PLAN.



FRONT ELEVATION.

NEW HAVEN SAVINGS BANK, NEW HAVEN, CONN.

BRITE & BACON, ARCHITECTS.

RUNNING TRACK PLAN.

SECOND FLOOR PLAN.

PLAN OF ABOVE.

PLAN OF GYMNASIUM ENTRANCE.

SECTION OF GYMNASIUM ENTRANCE.

ELEVATION OF BATH ENTRANCES.

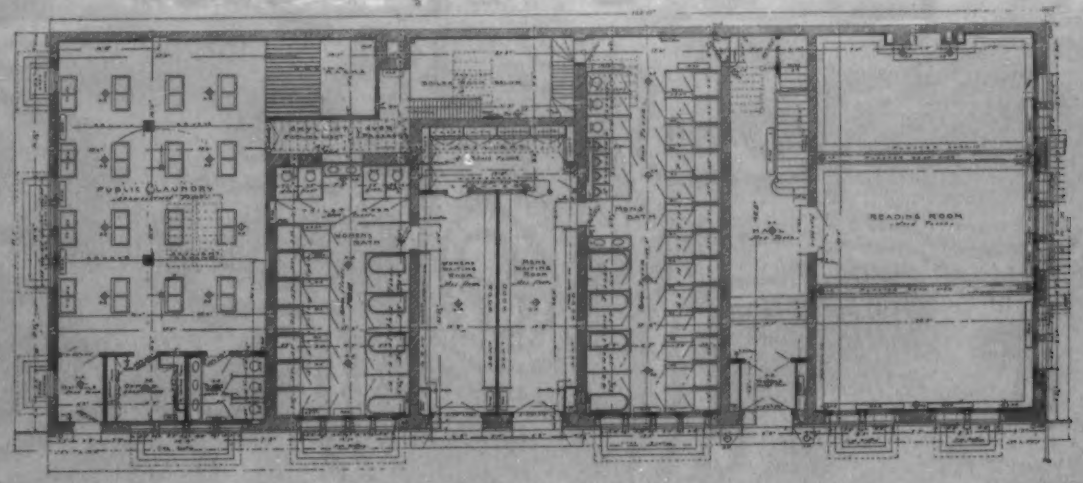
ELEVATION OF GYMNASIUM ENTRANCE.

TYPICAL BATHING ROOM WINDOW

TYPICAL READING ROOM WINDOW

SECOND FLOOR PLAN.

RUNNING TRACK PLAN.

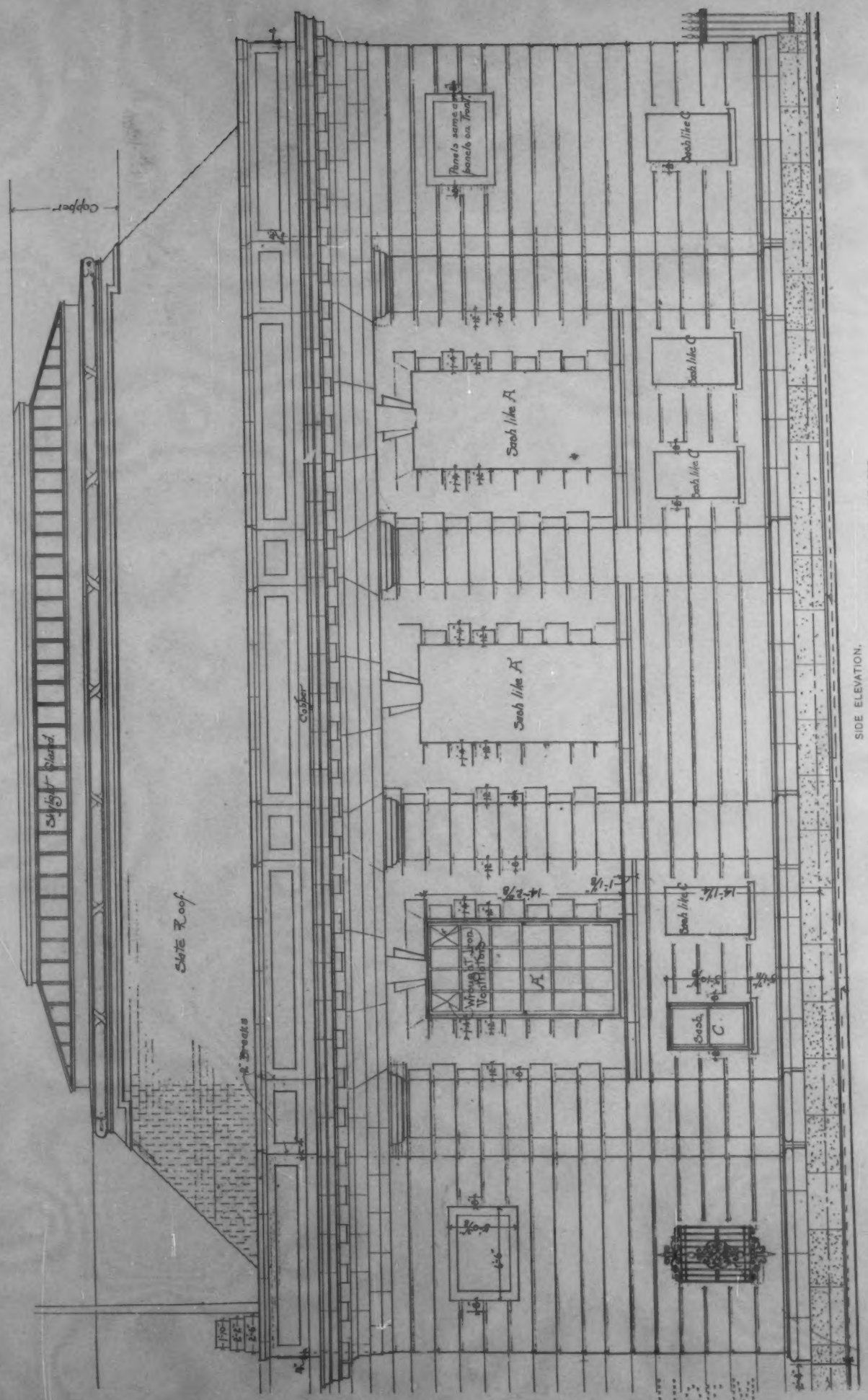


FIRST FLOOR PLAN.

FRONT ELEVATION.

PHIPPS SCHOOL OF PHYSICAL TRAINING, ALLEGHENY, PA.

RUTAN & RUSSELL, ARCHITECTS.



SIDE ELEVATION.

NEW HAVEN SAVINGS BANK, NEW HAVEN, CONN.

BRITE & BACON, ARCHITECTS.

SURGEONS' HOUSE.

HOSPITAL BUILDING.

IMMIGRANT STATION FOR THE UNITED STATES GOVERNMENT, ELLIS ISLAND, NEW YORK HARBOR.

BORING & TILTON, ARCHITECTS

THE BRICKBUILDER,
JULY,
1902.

NOT FOR LOAN

ADMINISTRATION BUILDING.

IMMIGRANT STATION FOR THE UNITED STATES GOVERNMENT, ELLIS ISLAND, NEW YORK HARBOR.

BORING & TILTON, ARCHITECTS.

ПОЛИ

HOUSE AT LAWRENCEVILLE, LONG ISLAND, N. Y.

T. HENRY RANDALL, ARCHITECT.

POLIN

NEW HAVEN SAVINGS BANK, NEW HAVEN, CONN.

BRITE & BACON, ARCHITECTS.

NORTHWESTERN UNIVERSITY SETTLEMENT, CHICAGO, ILL.

POND & POND, ARCHITECTS.